

09/101947

SEQUENCE LISTING

10 101947 10 101947

110 Altman, Elliot

120 STABILIZED BIOACTIVE PEPTIDES AND METHODS OF
IDENTIFICATION, SYNTHESIS AND USE

130 235.00010101

140 US 09,701,947

141 2000-12-05

150 60/104,013

151 1998-10-13

150 60/112,150

151 1998-12-14

160 110

170 PatentIn Ver. 2.1

210 1

211 133

212 DNA

213 Escherichia coli

400 1

ggcagtgagc gcaacgcaat taatgtgagt tagctcactc attaggcacc ccaggcttta 60
cactttatgc ttcggctcg tatgttgtgt ggaattgtga gcggataaca atttcacaca 120
ggaaacagct atg 133

210 2

211 25

212 PPT

213 Artificial Sequence

220

223 Description of Artificial Sequence: peptide
having opposite charge ending motif

220

221 SITE

222 (6...21)

223 any amino acid

400 2

Met Glu Asp Glu Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Arg Lys Arg Lys
20 25

<210> 3
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
angiotensin

<400> 3
Pro Pro Asp Arg Val Tyr Ile His Pro Phe His Ile Pro Pro
1 5 10

<210> 4
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
angiotensin

<400> 4
Glu Asp Glu Asp Asp Arg Val Tyr Ile His Pro Phe His Ile Arg Lys
1 5 10 15

Arg Lys

<210> 5
<211> 10
<212> PRT
<213> Homo sapiens

<400> 5
Asp Arg Val Tyr Ile His Pro Phe His Ile
1 5 10

<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 6
gttgccattg ctgcaggeat 20

<210> 7
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 7
attgaattca taagatcttt cctgtgtgaa attgttatcc gc 42

<210> 8
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 8
attgaattca ccatggacac catcgaatgg tgcaaaa 37

<210> 9
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 9
gttggtgcca ttgctgcag 19

<210> 10
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 10
tgtatgaatt cccgggtacc atggttgaag acgaaagggc etc 43

<210> 11
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 11
tactatagat ctatgaccat gattacggat tcaactg 36

<210> 12
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 12
tacataaagc ttggcctgcc cgggtattat tatttt 36

<210> 13
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 13
tatcatctgc agaggaaaca gctatgacca tgattacgga ttcactg 47

<210> 14
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 14
tacatactcg agcaggaaag cttggcctgc ccggttatta ttatatt 47

<210> 15
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 15
tatcatggat ccaggaaaca gctatgacca tgattacgga ttcactg 47

<210> 16
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 16
tactatagat ctatggctat cgaagaaaac aaacag 36

<210> 17
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 17
atatataagc ttttaaaaat cttcggttagt ttctgctacg 40

<210> 18
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 18
tactatagat ctatgaacaa aggtgtaatg cgacc 35

<210> 19
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 19
attagtgaat tcgcacaatc totgcaataa gtcgt 35

<210> 20
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer
fragment

<400> 20
agatcttatg aattc 15

<210> 21
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer
fragment

<400> 21
agatcttatg aattc 15

<210> 22
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer
fragment

<400> 22
agatccttatg aattc 15

<210> 23
<211> 93
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: randomized
oligonucleotide

<220>
<221> misc_feature
<222> (16)..(75)
<223> a, g, c, or t

<400> 23
tactatagat ctatgnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnntaata agaattctcg aca 93

<210> 24
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 24
tgtcgagaat tcttatta 18

<210> 25
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 25
tcattaatgc agctggcacg 20

<210> 26
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 26
ttcataacg gtgactgact 20

<210> 27
<211> 20
<212> DNA
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<220>
<223> Description of Artificial Sequence: primer

<400> 27
tagctcactc attaggcacc 20

<210> 28
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 28
gatgacgatg agcgattgt 20

<210> 29
<211> 21

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense
oligonucleotide

<400> 29
tactatagat ctacgggtcac tgaattttgt ggcttggttg accaactgcc ttagtaatag 60
tggaagggtg aaattaataa gaattctoga ca 92

<210> 30

<211> 91

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense
oligonucleotide

<400> 30
tactatagat ctacgtggcg ggactcatgg attaagggta gggacgtggg gtttatgggt 60
taaaatagtt tgataataa aattctogac a 91

<210> 31

<211> 92

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense
oligonucleotide

<400> 31
tactatagat ctacgaacgg ccgaacccaa cgaatccggg acccaccagc cgcttaaaca 60
gtaccagct gtggtataa gaattctoga ca 92

<210> 32

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense
oligonucleotide

<400> 32

tactatagat ctacggagcgg tgaagtgatg tgtgogggcaa aacaggaatg gaaggaacga 60
acgccatagg ccgggtaata agaattctcg aca 93

<210> 33

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense
oligonucleotide

<400> 33

tactatagat ctacgagggg cgccaactaa ggggggggga aggtatttgt cccgtgcata 60
atctcgggtg ttgttaata agaattctcg aca 93

<210> 34

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 34

Met Val Thr Glu Phe Cys Gly Leu Leu Asp Gln Leu Pro
1 5 10

<210> 35

<211> 86

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 35

caggaaagat ctatggtrac tgaattttgt ggcttggttg accaactgcc ttagtaatag 60
tggaaggctg aaattaataa gaattc 86

<210> 36
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
peptide

<400> 36
Met Trp Arg Asp Ser Trp Ile Lys Gly Arg Asp Val Gly Phe Met Gly
1 5 10 15

<210> 37
<211> 85
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 37
caggaaagat ctatgtggcg ggactcatgg attaagggtg gggacgtggg gtttatgggt 60
taaaatagtt tgataataag aatc 85

<210> 38
<211> 141
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 38
caggaaagat ctatgtcagg gggacatgtg acgagggagt gcaagtcggc gatgtccaat 60
cgttggatct acgtaataag aattctcatg ttgacagct tatcatgat aagctttaat 120
gggtagttt atcacagta a 141

<210> 39
<211> 42
<212> PRT
<213> Artificial Sequence

<210>

<213> Description of Artificial Sequence: stabilized
peptide

<400> 39

Met Ser Gly Gly His Val Thr Arg Glu Cys Lys Ser Ala Met Ser Asn

1

5

10

15

Arg Trp Ile Tyr Val Ile Arg Ile Leu Met Phe Asp Ser Leu Ser Ser

20

25

30

Ile Ser Phe Asn Ala Val Val Tyr His Ser

35

40

<210> 40

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 40

Met Tyr Leu Phe Ile Gly

1

5

<210> 41

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 41

caggaaagat ctatgtatatt gtccatcgga taataacttaa tggccgctg gagaacttca 60
gtttaataag aattc 75

<210> 42

<211> 87

<212> DNA

<213> Artificial Sequence

<210>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 42

caggaaagat ctatgcttct atttgggggg gactgggggc agaaagcggg atactttact 60
gtgctacgt caaggtaata agaattc 87

<210> 43

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 43

Met Leu Leu Phe Gly Gly Asp Cys Gly Lys Ala Gly Tyr Phe Thr Val
1 5 10 15

Leu Pro Ser Arg

20

<210> 44

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 44

caggaaagat ctatgattgg gggatcggtg agcttcgctt gggcaatagt ttgtaataag 60
aattctcatg ttgga 75

<210> 45

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 45

Met Ile Gly Gly Ser Leu Ser Phe Ala Trp Ala Ile Val Cys Asn Lys

1

5

10

15

Asn Ser His Val

20

<210> 46

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 46

Met Asn Gly Arg Thr Lys Arg Ile Arg Asp Pro Pro Ala Ala

1

5

10

<210> 47

<211> 86

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 47

caggaaagat ctatgaacgg ccgaacccaaa cgaatccggg acccaccagc cgcctaaaca 60
gtaccagct gtggttaataa gaattc 86

<210> 48

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 48

Met Asp Arg Glu Val Met Cys Ala Ala Lys Gln Glu Trp Lys Glu Arg

1

5

10

15

Thr Pro

<210> 49

<211> 87

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 49

caggaaagat ctatggaccg tgaagtgatg tgtgcggcaa aacaggaatg gaaggaacga 60
acgccatagg ccgcgtaata agaattc 87

<210> 50

<211> 87

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 50

caggaaagat ctatgtagcc caatgcactg ggagcacgcg tgtaggtct agaagccacg 60
taccattta atccataata agaattc 87

<210> 51

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 51

Met Leu Gly Leu Glu Ala Thr Tyr Pro Phe Asn Pro

1

5

10

<210> 52
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
peptide

<400> 52
Met Arg Gly Ala Asn
1 5

<210> 53
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 53
caggaaagat ctatgagggg cgccaactaa ggggggggga aggtatttgt cccgtgcata 60
atctcgggtg ttgtctaata agaattc 87

<210> 54
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
protective sequence

<220>
<221> SITE
<222> (1)
<223> any amino acid

<220>
<221> SITE
<222> (4)
<223> any amino acid

<400> 54

Xaa Pro Pro Xaa

1

<210> 55

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 55

tactatagat ctatgaccaa acaggaaaaa accgcc

36

<210> 56

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 56

tatacgtatt cagttgetca catgttcttt cctgcg

36

<210> 57

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 57

aattcatact atagatctat gaccaaacag gaaaaaacg c

41

<210> 58

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 58
tatataatac atgtcagaat togaggtttt caccgtcacc ac

41

<210> 59
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: randomized
oligonucleotide

<220>
<221> misc_feature
<222> (16)..(75)
<223> a, g, c, or t

<400> 59
tactatagat ctatgnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnccatag atctgogtgc tgtgat 96

<210> 60
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 60
atcacagcac gcagatctat g 21

<210> 61
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: randomized
oligonucleotide

<220>
<221> misc_feature
<222> (13)..(15)
<223> a, g, c, or t

<400> 61
tactatgaat tennngaatt ctgccaccac tactat 36

<210> 62
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 62
atagtagtgg tggcagaatt c 21

<210> 63
<211> 105
<212> DNA
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<220>
<223> Description of Artificial Sequence: randomized
oligonucleotide

<220>
<221> misc_feature
<222> (22)..(81)
<223> a, g, c, or t

<400> 63
tactatagat ctatgcgcgc gnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
nnnnnnnnnnn nnnnnnnnnnn nccgcgcgtaa taagaattcg tacat 105

<210> 64
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 64
atgtacgaat tottattacg gggg 24

<211> 65
 <211> 90
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: randomized
 oligonucleotide

 <220>
 <221> misc_feature
 <222> (18)
 <223> a, g, c, or t

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 <222> (21)
 <223> a, g, c, or t

 <220>
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 <222> (24)
 <223> a, g, c, or t

 <220>
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 <222> (27)
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 <222> (33)
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<223> a, g, c, or t

<220>
<221> misc_feature
<222> (45)
<223> a, g, c, or t

<220>
<221> misc_feature
<222> (48)
<223> a, g, c, or t

<220>
<221> misc_feature
<222> (51)
<223> a, g, c, or t

<220>
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<222> (54)
<223> a, g, c, or t

<220>
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<222> (57)
<223> a, g, c, or t

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<223> a, g, c, or t

<220>
<221> misc_feature
<222> (66)
<223> a, g, c, or t

<401> 65
tactatagat ctatgvanva nvanvanva vanvanvanv anvvanva nvanvanva 60

varwantaat aagaattctg ccagcactat

30

<210> 66

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 66

atagtgttg cagaattctt atta

24

<210> 67

<211> 105

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: randomized
oligonucleotide

<220>

<221> misc_feature

<222> (28)..(75)

<223> a, g, c, or t

<400> 67

tactatagat ctatggaaga cgaagacnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnnctaa acgtaaataa taagaattcg tacat 105

<210> 68

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 68

atgtacgaat tcttattatt tacgtttacg

30

<210> 69

<211> 81

<211> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 69

agatctatgc cgcgattct atggggcgaa gcgagaaagc gcttggtggg tggggatcat 60
acacgcgcgt aataagaatt c 81

<210> 70

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 70

Met Pro Pro Ile Leu Trp Gly Glu Ala Arg Lys Arg Leu Trp Gly Gly
1 5 10 15

Asp His Thr Pro Pro
20

<210> 71

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 71

agatctatgc cgcgcgcgtt ggatattgtg tcgggtattg aggtaggggg gcatttgtgg 60
tgccgcgcta ttaagaattc tcattgttga 90

<210> 72

<211> 27

<212> PRT

<213> Artificial Sequence

<210>

<220> Description of Artificial Sequence: stabilized
peptide

<400> 72

Met Pro Pro Pro Leu Asp Ile Val Ser Gly Ile Glu Val Gly Gly His
1 5 10 15

Leu Trp Cys Arg Arg Ile Lys Asn Ser His Val
20 25

<210> 73

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 73

agatctatgc cgccggacaa tccggtcctg tgatgaagcg gaggtcgacc aaggggatat 60
cagccgcgcgt aataagaatt c 81

<210> 74

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: stabilized
peptide

<400> 74

Met Pro Pro Asp Asn Pro Val Leu
1 5

<210> 75

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 75

agatctatgc cgcgcgtatt ggaaggagat gacaaataga tatatgcgtg gttgtttttc 60
tgccgcgcgt aataagaatt c 81

<210> 76

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 76

Met Pro Pro Leu Leu Asp Gly Asp Asp Lys

1 5 10

<210> 77

<211> 79

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 77

agatctatgc cgcgcgaggtg gaagatggtg ataagacagt gacagatgcg ttccattact 60
ccgcgcgtaa taagaattc 79

<210> 78

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 78

Met Pro Pro Arg Trp Lys Met Leu Ile Arg Gln

1 5 10

<210> 79
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 79
agatctatga tgagagtagc gccgcggtaa taagaattc

39

<210> 80
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
peptide

<400> 80
Met Met Arg Val Ala Pro Pro
1 5

<210> 81
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 81
agatctatgc cgcggttgcc gggggcatgc gatgtatatg gggtaaattg aatgtcttgt 60
gggcgcgcgt aataagaatt c 81

<210> 82
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized

peptide

<400> 82

Met Pro Pro Leu Arg Gly Ala Cys Asp Val Tyr Gly Val Asn

1

5

10

<210> 83

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 83

agatctatgc cgccggggag aggggaagcg gtgggagtga catgottgag cgcgaacgtg 60
taccgcgcgt aataagaatt c 81

<210> 84

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 84

Met Pro Pro Gly Arg Gly Glu Ala Val Gly Val Thr Cys Leu Ser Ala

1

5

10

15

Asn Val Tyr Pro Pro

20

<210> 85

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 85

agatctatgc cgccgggaag ggtagtgttc ttgtcgcta tctttgttgc cgcaatatgc 60
ctcccgccgt aataagaatt c 81

<210> 86
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
peptide

<400> 86
Met Pro Pro Gly Arg Val Val Phe Phe Val Ala Ile Phe Val Ser Ala
1 5 10 15

Ile Cys Leu Pro Pro
20

<210> 87
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 87
agatctatgc cgccgaggtt cgctcatgag agtggttaaag ggctggggga cgttacaaaa 60
gtcccgccgt aataagaatt c 81

<210> 88
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: stabilized
peptide

<400> 88
Met Pro Pro Arg Phe Ala His Glu Ser Val Lys Gly Leu Gly Asp Val
1 5 10 15

Thr Lys Ala Pro Pro

10

<210> 89

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 89

agatctatgc atgargaaca agaggaggag cacaataaaa aggataacga aaaagaacac 60
taataagaat tc 72

<210> 90

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 90

Met His Asp Glu Gln Glu Glu Glu His Asn Lys Lys Asp Asn Glu Lys
1 5 10 15

Glu His

<210> 91

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 91

agatctatgc agcaggagca cgagcaagga aggatgagca agaggatgaa gaataataag 60
aattctcatg ttgga 75

<210> 92

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 92

Met Gln Gln Glu His Glu Gln Gly Arg Met Ser Lys Arg Met Lys Asn

1

5

10

15

Asn Lys Asn Ser His Val

20

<210> 93

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 93

agatctatga accatcataa tgaggccatg atcaacacaa tgaaaacgag gaataataag 60

aattctcatg tttga

75

<210> 94

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 94

Met Asn His His Asn Glu Ala Met Ile Asn Thr Met Lys Thr Arg Asn

1

5

10

15

Asn Lys Asn Ser His Val

20

<210> 95

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 95

agatctatga acgacgacaa tcagcaagag gataatcatg atcagcataa ggataacaaa 60
taataagaat tc 72

<210> 96

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 96

Met Asn Asp Asp Asn Gln Gln Glu Asp Asn His Asp Gln His Lys Asp
1 5 10 15

Asn Lys

<210> 97

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 97

agatctatgc aagagcagga tcagcataat gataaccatc acgaggataa acataagaag 60
taataagaat tc 72

<210> 98

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 98

Met Gln Glu Gln Asp Gln His Asn Asp Asn His His Glu Asp Lys His
1 5 10 15

Lys Lys

<210> 99

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 99

agatctatgg aagacgaaga cgagggtgcg tcagcgtggg gagcagaact ttggtcgtgg 60
cagtcggtgc gtaaacgtaa ataataagaa ttc 93

<210> 100

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 100

Met Glu Asp Glu Asp Glu Gly Ala Ser Ala Trp Gly Ala Glu Leu Trp
1 5 10 15

Ser Trp Gln Ser Val Arg Lys Arg Lys
20 25

<210> 101

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 101

agatctatgg aagaagaaga cggctctaggg atgggggggtg ggttggtcag gctcacttta 60
ttattcttcc gtaaacgtaa ataataagaa ttc 93

<210> 102

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 102

Met Glu Asp Glu Asp Gly Leu Gly Met Gly Gly Gly Leu Val Arg Leu
1 5 10 15

Thr Leu Leu Phe Phe Arg Lys Arg Lys
20 25

<210> 103

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 103

agatctatgg aagaagaaga cggggagagg atccaggggg cccgctgtcc agtagcgctg 60
gtagatagac gtaaacgtaa ataataagaa ttc 93

<210> 104

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 104

Met Glu Asp Glu Asp Gly Glu Arg Ile Gln Gly Ala Arg Cys Pro Val
1 5 10 15

Ala Leu Val Asp Arg Arg Lys Arg Lys
20 25

<210> 105

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 105

Met Glu Asp Glu Asp Asp Arg Gly Arg Gly Arg
1 5 10

<210> 106

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 106

agatctatgg aagaagaaga cgacaggggg cgtgggcggt agctttaagt tgcgctaagt 60
tgcgagatac gtaaacgtaa ataataagaa ttc 93

<210> 107

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 107

agatctatgg aagacgaaga cggggggggcc gggaggaggg cctgtctttg ttcgcegett 60
gttggggaac gtaaactgaa ataataagaa ttc 93

<210> 108

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 108

Met Glu Asp Glu Asp Gly Gly Ala Gly Arg Arg Ala Cys Leu Cys Ser
1 5 10 15

Ala Leu Val Gly Glu Arg Lys Arg Lys
20 25

<210> 109

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleic acid
encoding stabilized peptide

<400> 109

agatctatgg aagacgaaga caagcgtcgc gagaggagtg caaaagggcg tcatgtcggc 60
cggtcgatgc gtaaactgaa ataagactgt 90

<210> 110

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stabilized
peptide

<400> 110

Met Glu Asp Glu Asp Lys Arg Arg Glu Arg Ser Ala Lys Gly Arg His

1

5

10

15

Val Gly Arg Ser Met Arg Lys Arg Lys

20

25